UNITED STATES PATENT AND TRADEMARK OFFICE

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ART UNIT	PAPER NUMBER
2178	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 August 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>22.8.05</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This non-final rejection is in response to the amendment filed with the request for

continued examination filed 12 August 2005, and the information disclosure statement

filed 22 August 2005.

2.   Claims 1-41 are pending. Claims 1, 3, 13, 22, and 32 are independent claims.

The rejection of claims 1-41 under 35 U.S.C. 102 have been withdrawn as necessitated

by the amendment.

Information Disclosure Statement

3.   The information disclosure statement (IDS) submitted on 22 August 2005 is in

compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure

statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claims 1-41 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claims 1, 3, 13, 22, and 32 recite the limitation of moving a label "on said display

(claim 1, line 9)" from an initial position to new display coordinates. The wording of the

claim makes it unclear whether the movement from an initial display position to a final

display position is performed on the display or whether the initial position is displayed on a display and the final position is displayed on a display.

6.   The term "degree of severity" in claim 5 is a relative term which renders the claim indefinite. The term "degree of severity" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

All claims not specifically listed are rejected based upon their dependency upon a rejected base claim.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1, 3, 9-12, 22, and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiley et al. (US 6154219, filed 1 December 1997, hereafter Wiley) and further in view of Varon (US 6081764, filed 15 December 1997).

As per independent claim 1, Wiley discloses an apparatus for positioning labels among graphical elements on a computer graphics display, comprising:

- A display

- A processor coupled to the display and operable to:

o Calculate initial coordinates in accordance with an initial position of at least one label in the cluster (column 3, lines 27-29: Here, collisions (or clusters) with objects that have already been displayed are detected while calculating where to place a label)

o Calculate new display coordinates in accordance with a new position of the at least one label in the cluster having less overlap (column 5, lines 7-18: Here, a label position is checked to see if it collides with a pre-placed label. If it does, it is rejected, and a new display position is calculated)

o Move the at least one label from the initial coordinates to the new display coordinates (column 5, lines 7-18: Here, a label is moved from the initial coordinates to new coordinates that do not collide with other coordinates)

Wiley fails to specifically disclose the processor coupled to the display operable to:

• Display the at least one label at the initial display coordinates

• Move the at least one label on the display

However, Varon discloses the processor coupled to the display operable to:

• Display the at least one label at the initial display coordinates (column 6, lines 30-35; column 3, lines 43-62: Here, a target (airplane) is tracked from an initial position. This target has a label associated with it)

• Move the at least one label on the display (column 6, lines 30-35; column 3, lines 43-62: Here, the label moves in conjunction with the target)

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Wiley's apparatus with Varon's apparatus, since

it would have allowed a user track a plurality of targets without swapping labels (Varon: column 3, lines 60-62).

As per independent claim 3, the applicant discloses limitations similar to those in claim 1. Claim 3 is similarly rejected under Wiley and Varon.

As per dependent claim 9, Wiley and Varon disclose the limitations similar to those in claim 3, and the same rejection is incorporated herein. Wiley further discloses the means for calculating further comprising means for comparing the degree of overlap of labels and graphical elements with the new display coordinates and the existing degree of overlap of labels and graphical elements (column 7, line 17- column 8, line 13: Here, a collision penalty is assessed. The region having the lowest collision penalty is where the label is displayed).

As per dependent claim 10, Wiley and Varon disclose the limitations similar to those in claim 3, and the same rejection is incorporated herein. Wiley further discloses the means for calculating the new display coordinates according to a stochastic method (column 8, lines 50-67).

As per dependent claim 11, Wiley and Varon disclose the limitations similar to those in claim 3, and the same rejection is incorporated herein. Wiley further discloses the means for calculating the new display coordinates according to a heuristic method (column 8, lines 50-67).

As per dependent claim 12, Wiley and Varon disclose the limitations similar to those in claim 3, and the same rejection is incorporated herein. Varon further discloses the apparatus wherein the means for moving further comprises:

- Means for interpolating a plurality of intermediate display coordinates between the initial display coordinates and the new display coordinates (column 1, line 49-column 2, line 15)

- Means for sequentially placing the labels at each of the intermediate display coordinates before placing the labels at the new display coordinates, thereby smoothing the movements of the labels on the display (column 1, line 49- column 2, line 15: Here, a flight is tracked as it moves from an initial location to a final destination. Along with the flight, a label, including the flight number, is displayed. As the flight travels along the flight path, the flight and label position are displayed, and move to intermediate coordinates along the flight path)

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Wiley and Varon's apparatus with Varon's apparatus, since it would have allowed air-traffic controllers to track a flight from departure to arrival.

As per independent claim 22, the applicant discloses limitations similar to those in claim 1. Claim 22 is similarly rejected under Wiley and Varon.

As per dependent claim 28, the applicant discloses the limitations similar to those in claim 9. Claim 28 is similarly rejected under Wiley and Varon.

As per dependent claim 29, the applicant discloses the limitations similar to those in claim 10. Claim 29 is similarly rejected under Wiley and Varon.

As per dependent claim 30, the applicant discloses the limitations similar to those in claim 11. Claim 30 is similarly rejected under Wiley and Varon.

As per dependent claim 31, the applicant discloses the limitations similar to those

in claim 12. Claim 31 is similarly rejected under Wiley and Varon.

9.   Claims 2, 4-7, 13-16, 18-21, 23-26, 32-35, and 37- 41 are rejected under 35

U.S.C. 103(a) as being unpatentable over Wiley and Varon and further in view of Basani

et al. (US 6748447, filed 7 April 2000, hereafter Basani).

As per dependent claim 2, Wiley and Varon disclose the limitations similar to

those in claim 1, and the same rejection is incorporated herein. Wiley further discloses

the apparatus wherein the processor is operable to:

- Sequentially select labels from a plurality of labels (column 6, line 56- column 7,

  line 8)

- Test each of the selected labels for overlay with other labels or graphical

  elements in display (column 6, line 56- column 7, line 8)

- Accumulate an overlap score for each of the selected labels (column 7, lines 25-

  36)

- Operable to generate a list of other labels and graphical elements that overlap

  each of the selected labels (column 10, lines 26-65: Here, the "Second List"

  contains elements that the weighted collision array identifies and attempts to

  avoid collisions with; column 11, lines 9-18)

Wiley fails to specifically disclose:

- Comparing a plurality of the lists

- Sorting lists according to the number of entries

Basani discloses:

- List comparison (column 10, lines 28-38)

- Sorting lists according to the number of entries (column 5, line 60- column 6, line 37)

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Wiley and Varon with Basani, since it would have allowed a user to maintain reliable control over data (Basani: column 4, lines 63-66).

As per dependent claim 4, the applicant discloses the limitations similar to those in claim 2. Claim 4 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 5, Wiley, Varon, and Basani disclose the limitations similar to those in claim 4, and the same rejection is incorporated herein. Wiley further discloses wherein the overlap score is based on the degree of severity of overlap between labels and graphical elements (column 7, lines 25-36: Here, the weighted collision array has a degree of severity).

As per dependent claim 6, Wiley, Varon, and Basani disclose the limitations similar to those in claim 4, and the same rejection is incorporated herein. Wiley further discloses determining that the labels are overlapping other labels or graphical elements when they are mutually overlapping (column 9, lines 19-27: Here, if a collision occurs, but it does not occur with a senior object, a collision penalty is calculated. This is considered mutually overlapping because the two colliding labels have the same priority).

As per dependent claim 7, Wiley, Varon, and Basani disclose the limitations similar to those in claim 4, and the same rejection is incorporated herein. Wiley further discloses determining that the labels are overlapping other labels or graphical elements when they are mutually overlapping or transitively overlapping (column 9, lines 19-27).

As per independent claim 13, the applicant discloses the limitations similar to those in claims 1 and 2. Claim 13 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 14, the applicant discloses the limitations similar to those in claim 5. Claim 14 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 15, the applicant discloses the limitations similar to those in claim 6. Claim 15 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 16, the applicant discloses the limitations similar to those in claim 7. Claim 16 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 18, the applicant discloses the limitations similar to those in claim 10. Claim 18 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 19, the applicant discloses the limitations similar to those in claim 11. Claim 19 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 20, Wiley, Varon, and Basani disclose the limitations similar to those in claim 13, and the same rejection is incorporated herein. Wiley further disclose wherein the calculating of new display coordinates is ordered according to the cluster list (column 10, lines 10-65).

As per dependent claim 21, the applicant discloses the limitations similar to those in claim 12. Claim 21 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 23, the applicant discloses the limitations similar to those in claim 2. Claim 23 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 24, the applicant discloses the limitations similar to those in claim 5. Claim 24 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 25, the applicant discloses the limitations similar to those in claim 6. Claim 25 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 26, the applicant discloses the limitations similar to those in claim 7. Claim 26 is similarly rejected under Wiley, Varon, and Basani.

As per independent claim 32, the applicant discloses the limitations similar to those in claims 1 and 2. Claim 32 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 33, the applicant discloses the limitations similar to those in claim 5. Claim 33 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 34, the applicant discloses the limitations similar to those in claim 6. Claim 34 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 35, the applicant discloses the limitations similar to those in claim 7. Claim 35 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 37, the applicant discloses the limitations similar to those in claim 10. Claim 37 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 38, the applicant discloses the limitations similar to those in claim 11. Claim 38 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 39, the applicant discloses the limitations similar to those in claim 20. Claim 39 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 40, the applicant discloses the limitations similar to those in claim 12. Claim 40 is similarly rejected under Wiley, Varon, and Basani.

As per dependent claim 41, Wiley, Varon, and Basani disclose the limitations similar to those in claim 32, and the same rejection is incorporated herein. Wiley further discloses the method further comprising the step of repeating the foregoing sequence of steps through a plurality of iterations (Figure 3).

10. Claims 8, 17, 27, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiley, Varon, and Basani and further in view of Kelley et al. (A Book on C: Fourth Edition, 1998, hereafter Kelley).

As per dependent claim 8, Wiley, Varon, and Basani disclose the limitations similar to those in claim 4, and the same rejection is incorporated herein. Wiley fails to specifically disclose sorting from largest to smallest. However, Kelley discloses the ability to sort from largest to smallest (pages 372-376).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Wiley's apparatus with Kelley's apparatus, since it would have allowed a user a quickly sort data (Kelley: page 372, paragraph 2).

As per dependent claim 17, the applicant discloses the limitations similar to those in claim 8. Claim 17 is similarly rejected under Wiley, Varon, Basani, and Kelley.

As per dependent claim 27, the applicant discloses the limitations similar to those in claim 8. Claim 27 is similarly rejected under Wiley, Varon, Basani, and Kelley.

As per dependent claim 36, the applicant discloses the limitations similar to those in claim 8. Claim 36 is similarly rejected under Wiley, Varon, Basani, and Kelley.

Response to Arguments

11.   Applicant's arguments with respect to claims 1-41 have been considered but are moot in view of the new ground(s) of rejection.

As disclosed above, the Wiley, Varon, Basani, and Kelley reference have been added to address the amended claim limitations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle R. Stork whose telephone number is (571) 272-4130. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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PRIMARY EXAMINER